FIG. 1

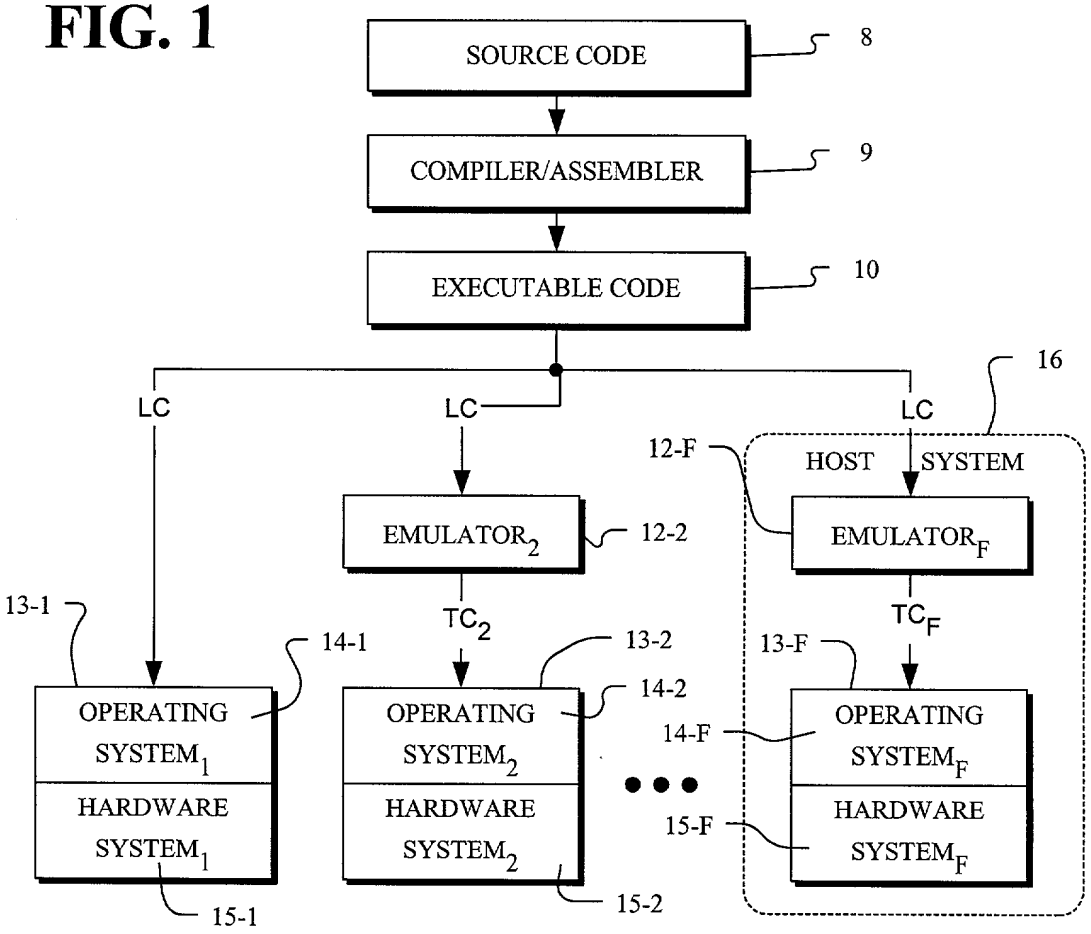

SOURCE CODE
8
COMPILER/ASSEMBLER
9
EXECUTABLE CODE
10
16
LC
LC
LC
12-F
HOST SYSTEM
EMULATOR2
12-2
EMULATORF
13-1
TC2
TCF
14-1
13-2
13-F
14-2
OPERATING SYSTEM1
OPERATING SYSTEM2
14-F
OPERATING SYSTEMF
HARDWARE SYSTEM1
HARDWARE SYSTEM2
15-F
HARDWARE SYSTEMF
15-1
15-2

FIG. 2

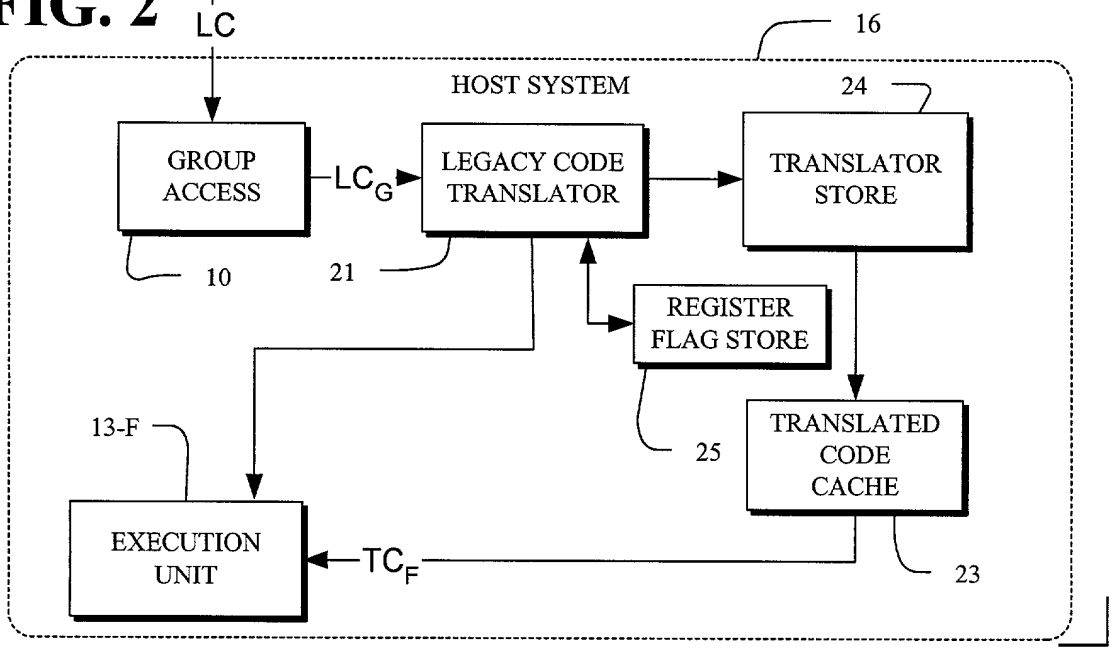

LC
16
HOST SYSTEM
24
GROUP ACCESS
LCG
LEGACY CODE TRANSLATOR
TRANSLATOR STORE
10
21
REGISTER FLAG STORE
13-F
25
TRANSLATED CODE CACHE
EXECUTION UNIT
TCF
23

FIG. 3

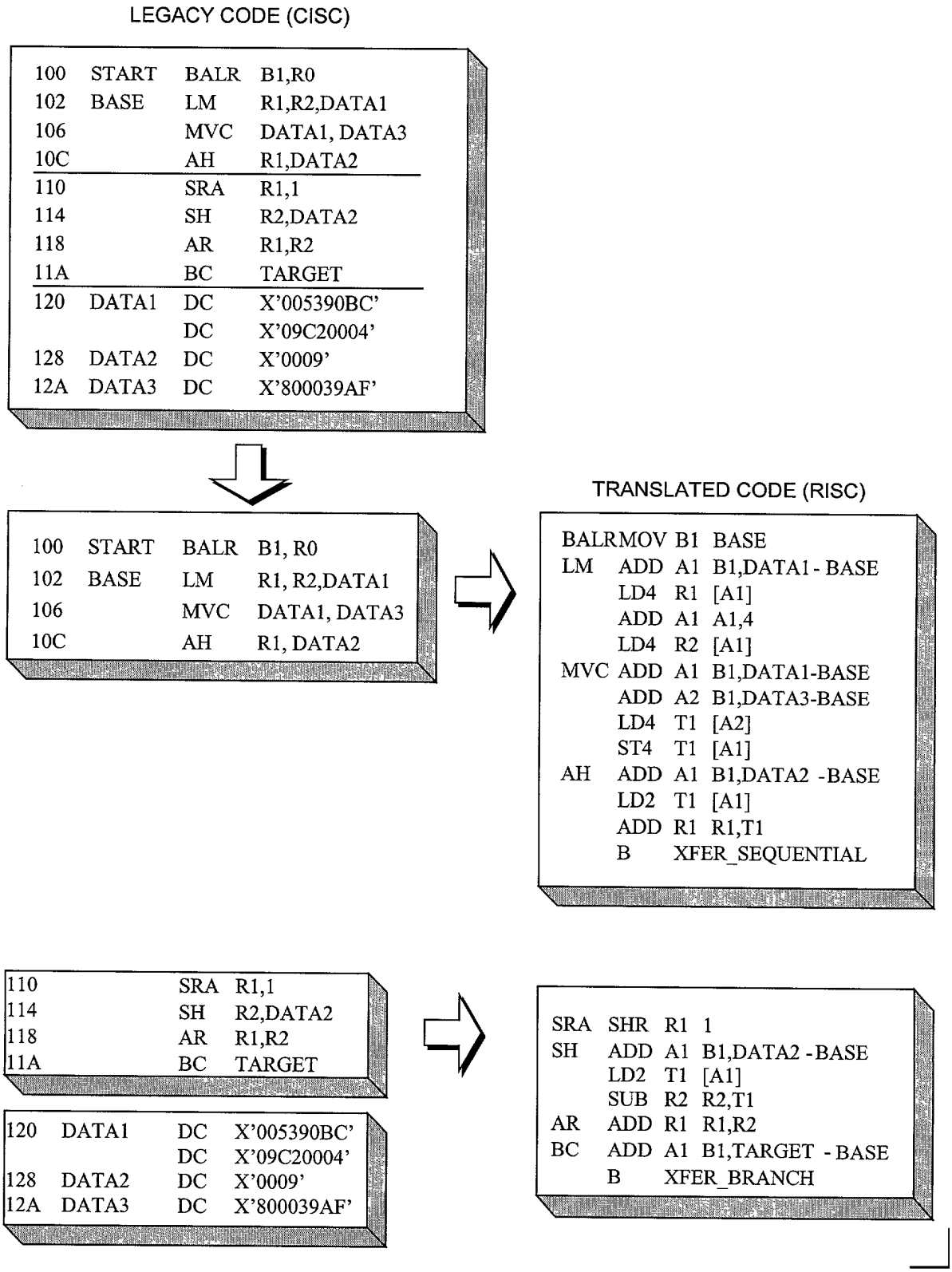
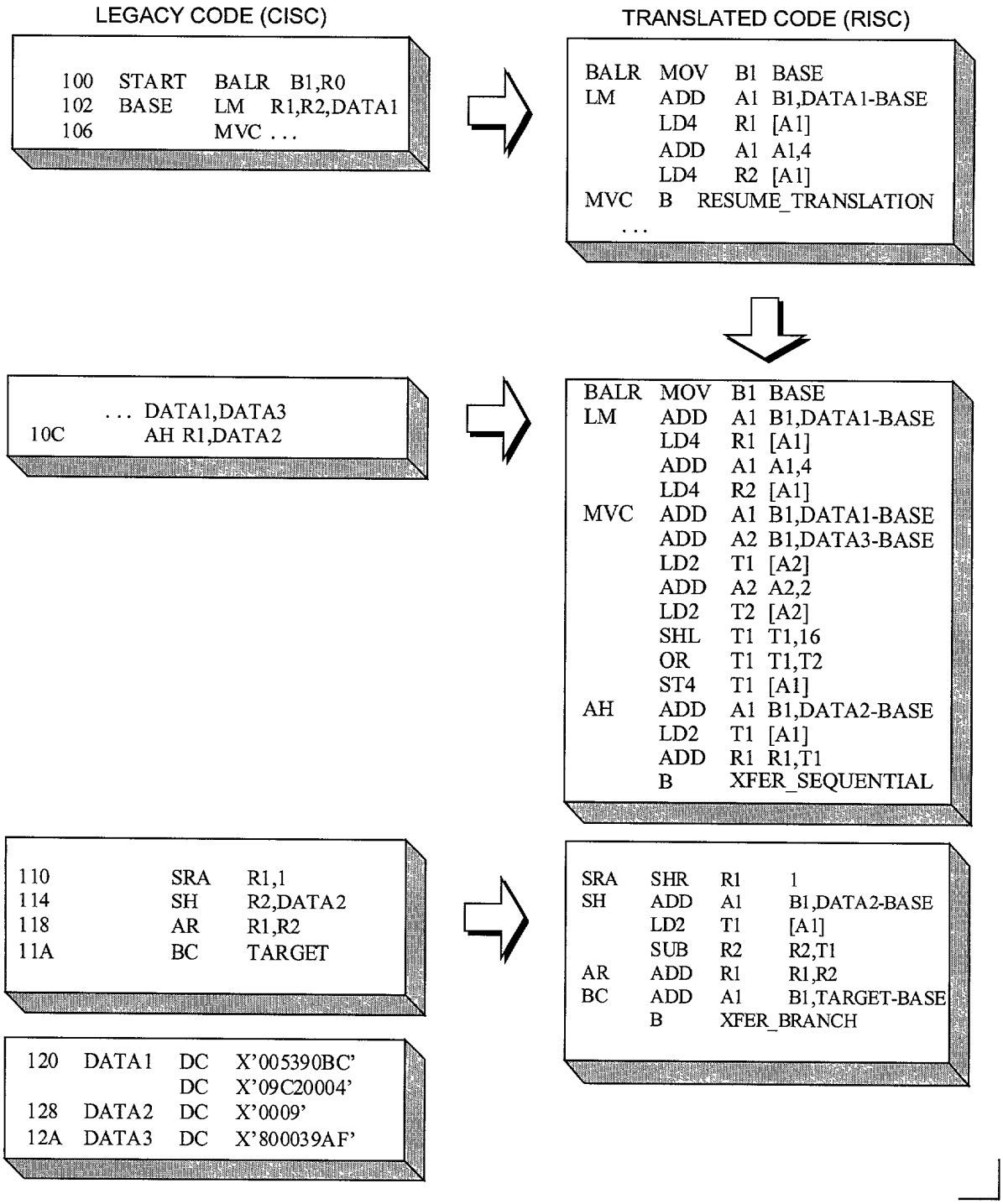

LEGACY CODE (CISC)
100 START BALR B1,R0
102 BASE LM R1,R2,DATA1
106 MVC DATA1, DATA3
10C AH R1,DATA2
110 SRA R1,1
114 SH R2,DATA2
118 AR R1,R2
11A BC TARGET
120 DATA1 DC X'005390BC'
DC X'09C20004'
128 DATA2 DC X'0009'
12A DATA3 DC X'800039AF'
100 START BALR B1, R0
102 BASE LM R1, R2,DATA1
106 MVC DATA1, DATA3
10C AH R1, DATA2
TRANSLATED CODE (RISC)
BALRMOV B1 BASE
LM ADD A1 B1,DATA1 - BASE
LD4 R1 [A1]
ADD A1 A1,4
LD4 R2 [A1]
MVC ADD A1 B1,DATA1-BASE
ADD A2 B1,DATA3-BASE
LD4 T1 [A2]
ST4 T1 [A1]
AH ADD A1 B1,DATA2 -BASE
LD2 T1 [A1]
ADD R1 R1,T1
B XFER_SEQUENTIAL
110 SRA R1,1
114 SH R2,DATA2
118 AR R1,R2
11A BC TARGET
120 DATA1 DC X'005390BC'
DC X'09C20004'
128 DATA2 DC X'0009'
12A DATA3 DC X'800039AF'
SRA SHR R1 1
SH ADD A1 B1,DATA2 -BASE
LD2 T1 [A1]
SUB R2 R2,T1
AR ADD R1 R1,R2
BC ADD A1 B1,TARGET - BASE
B XFER_BRANCH

FIG. 4


LEGACY CODE (CISC)
100 START BALR B1,R0
102 BASE LM R1,R2,DATA1
106 MVC . . .
TRANSLATED CODE (RISC)
BALR MOV B1 BASE
LM ADD A1 B1,DATA1-BASE
LD4 R1 [A1]
ADD A1 A1,4
LD4 R2 [A1]
MVC B RESUME_TRANSLATION
. . .
. . . DATA1,DATA3
10C AH R1,DATA2
BALR MOV B1 BASE
LM ADD A1 B1,DATA1-BASE
LD4 R1 [A1]
ADD A1 A1,4
LD4 R2 [A1]
MVC ADD A1 B1,DATA1-BASE
ADD A2 B1,DATA3-BASE
LD2 T1 [A2]
ADD A2 A2,2
LD2 T2 [A2]
SHL T1 T1,16
OR T1 T1,T2
ST4 T1 [A1]
AH ADD A1 B1,DATA2-BASE
LD2 T1 [A1]
ADD R1 R1,T1
B XFER_SEQUENTIAL
110 SRA R1,1
114 SH R2,DATA2
118 AR R1,R2
11A BC TARGET
SRA SHR R1 1
SH ADD A1 B1,DATA2-BASE
LD2 T1 [A1]
SUB R2 R2,T1
AR ADD R1 R1,R2
BC ADD A1 B1,TARGET-BASE
B XFER_BRANCH
120 DATA1 DC X'005390BC'
DC X'09C20004'
128 DATA2 DC X'0009'
12A DATA3 DC X'800039AF'